

## REVIEWS OF BOOKS

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A CONTRIBUTIBUTION TO THE SURGERY OF THE SPINAL CORD. By WILLIAM THORBURN, B.S., B.Sc., M.D. (London). With Diagrams, Illustrations, and Tables. Royal 8vo., 230 pages. London: Charles Griffin & Co., Exeter Street, Strand. St. Louis, Mo : J. H. Chambers & Co., 914 Locust Street.

The field of operative surgery has been so much extended during the past decade that an author can no longer include in a single volume discussions of all the various branches of the subject. The tendency to specialize is becoming more and more marked, and in this volume the writer has considered the spinal cord alone. As is stated in the introduction the book does not claim to be an exhaustive monograph upon the subject considered, but the author has endeavored to collect and classify many reports which have appeared in journals, and in current medical literature from time to time of cases in which the spinal cord has been injured. To these he has added his own clinical observations and deductions in a most interesting and instructive series of similar cases which came under his immediate care during a number of years, as Surgical Registrar to the Manchester Royal Infirmary. He calls attention to the vagueness and indefiniteness, which, until very recent years, has characterized most of the published descriptions of the symptoms of spinal injuries, so that they were almost valueless for the purpose of throwing light upon the more obscure questions of spinal pathology and physiology, or even of permitting an accurate diagnosis of the cases themselves. Such accidents, however, properly observed and studied, would constitute a most valuable accumulation of "experiments" for illuminating questions of spinal physiology and pathology, and every exact contribution to this fund is important. The

growing tendency upon the part of surgeons to invade the spinal cord, calls also for special studies to increase the accuracy of those diagnostic methods upon the skillful use of which depends the extension of surgical achievement in this field. In this spirit the author has approached his work, and gives us as the result this volume,

The body of the work is made up of a series of clinical histories of patients who have suffered from various lesions of the cord. These are carefully arranged. The first set discussed are those in which there have been injuries to the cervical region of the cord. Twenty-one such cases came under the author's notice, and are considered at some length. This group is interesting from its relation to the brachial plexus, and, as a result of careful study, many valuable facts concerning the distribution of these nerves to the intrinsic muscles of the upper extremities were discovered. The table of classification of the distribution of nerves arising from the cervical nerve roots as given by Ferrier and Yeo from physiological experiments upon monkeys chiefly; by Gowers, giving the results of clinical observations; and by Herringham from a purely anatomical point of view, are each considered. The author, however, does not accept any of these as final, but gives a table, embodying the results of his own investigations, where "the extent of the paralysis has been deduced partly from the obvious loss of voluntary control over the muscles, partly from the positions assumed by the limbs, and partly from the electric reaction." The exact site of the lesion was generally subsequently confirmed by post mortem examination. The table given differs in several particulars from the three first mentioned, and the histories of the cases, with the comments made upon each, show unusually accurate observations, and anatomical knowledge.

Next in order is the chapter devoted to injuries to the dorsal region of the cord, with a history of seven cases. To these is added a table of twenty-seven cases, as arranged by Gurlt, where the lesion was subsequently determined. As a result of his study of these cases, the author calls especial attention to the fact that, in the majority of cases where there is a bony lesion, the cord alone is injured, leaving the nerve-roots intact, so that the upper limit of the anaesthesia observed

is considerably below the lesion of the cord—a fact of especial value when the surgical procedure of trephining of the spine is indicated.

Four cases in which the cauda equina was the seat of injury are next discussed. After a careful tabular comparison of the symptoms observed in these cases, Dr. Thorburn supplements this rather meager list by the observations of other surgeons of note upon the same class of injuries.

Chapter V. is devoted to injuries of the lumbo-sacral region of the spinal cord. Here, as in the cases involving the brachial plexus, the author deviates somewhat from the tables of distribution of the nerves in the lumbar and the sacral plexuses as given by other authors, and gives a table derived from his own observations. To substantiate his claims he describes quite fully sixteen cases, where this region was involved in the injury, and besides his own comments upon the cases, there are numerous cross references used which add to the value of his deductions.

Using these forty-eight cases as a text, Dr. Thorburn goes on to consider the indications for operative treatment in affections of the spinal cord. Such of the author's own cases as were operated upon are first considered, and then follows a most valuable table, twelve pages in length, giving a resume of fifty-six operable cases. The name of the operator and the date of the operation are given with each case, and also, in order, the reference to the publication from which the information was derived, the symptoms before the operation, the nature of the operation, the subsequent course of the disease, the result, and the region of post-mortem appearances in the fatal cases. The statistics go to show:

1. That in the vast majority of cases, the results of fractures and of dislocations are incurable where an operation was not performed.
2. That, owing to modern antiseptic precautions, the operations upon the cord are not necessarily fatal, nor so dangerous as to be unjustifiable.
3. When the operation has been successfully performed, the spine is not sufficiently weakened to prevent the performance of its normal functions.

The author says, in summing up: "It would appear then that the operation of trephining the spine for traumatic lesions, as compared with the condition which it is intended to relieve, does not present any very great dangers, and appears unlikely to increase the gravity of the prognosis, but that as *a priori* argument, and the results of published cases show that it is unlikely to be of service, it should be abandoned except in cases of injury to the cauda equina, and that in the latter, on the other hand, it will probably prove to be an eminently justifiable and serviceable procedure."

Caries of the vertebrae and other pressure lesions are touched upon, and then follows a chapter devoted to the ophthalmoscopic changes in injuries to the spinal cord, and in traumatic neuroses.

The concluding chapter upon traumatic hysteria, especially in relation to railway accidents, is the most interesting, and in many ways the most practical one in the book. There is a careful distinction made between neurasthenia and hysteria, and traumatic hysteria is defined as, "a functional disturbance of the nervous system, resulting from an injury, due probably to a change localized in some portion of the cerebral cortex, and manifested by correspondingly well-defined and localized symptoms. Or we may say that it has no known organic basis, that it is not reflex in origin, and that it is neither shock nor neurasthenia." The term thus adopted is a comparatively new one, but it commends itself as being preferable to the rather vague terms "railway spine," "railway brain" and other expressions used to represent these same conditions. The etiology and symptomatology are discussed carefully, and are illustrated by a number of cases. Especial attention is directed to the influence which the hope of compensation has upon the course of the disease, a fact which the author emphasizes by showing how rarely are such neuroses met with in railway operatives who pass through the same experiences, but who rarely, if ever, develop traumatic hysteria. The usual treatment of rest, seclusion, and tonics is advocated.

Such illustrations as are introduced into the work, though chiefly diagrammatic, are in most cases taken from photographs, and are valuable adjuncts to the text.

In the introduction the writer says, "It must be generally admitted that, until very recent years, the published descriptions of the symptoms of spinal injuries have, except in the hands of a few observers, been so vague and indefinite, as to be almost valueless for the purpose of throwing light upon the more obscure questions of spinal pathology and physiology, or even of permitting an accurate diagnosis of the cases themselves" Bearing this in mind Dr. Thorburn has written a book in which the unimportant details are omitted; in which the careful, complete, and accurate observations that the author makes, and his logical conclusions and deductions therefrom, are expressed clearly and concisely; and which is a valuable addition to surgical literature.

H. P. DE FOREST.

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ANILIN FARBESTOFFE ALS ANTISEPTICA UND IHRE ANWENDUNG IN DER PRAXIS. VON PROF. DR. J. STILLING, Erste Mittheilung.

ANILINE-DYES AS ANTISEPTICS AND THEIR USE IN SURGICAL PRACTICE. Strassburg, Karl J. Trübner, 1890; New York, G. E. Stechert; St. Louis, J. H. Chambers & Co.

This paper is divided into three parts and is preceded by an introduction.

The first part treats of bacteriological investigations as to the antiseptic value of the violet aniline stains, which were done with the assistance of Dr. J. Wortmann. It was observed that the addition of methyl-violet to a soil, in the concentration of 1 in 30,000, prevented the development of putrefactive micro-organisms. The development of staphylococcus pyogenes aureus on agar soils was prevented by a proportion of 1·64,000. A number of other experiments were also done.

The second part of the *brochure* contains the results of experiments on animals, 20 cubic centimetres (about 5 $\frac{1}{2}$  fluid drachms) of a 1:1000 solution of methyl-violet, free from arsenic, injected subcutaneously in rabbits and Guinea-pigs produces no deleterious effect; but half of this amount kills the animals when injected into the peritoneal